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**START****Department of Energy**

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95-PCA-001

Mr. David L. Lundstrom
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State of Washington
Department of Ecology
1315 West 4th Avenue
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Mr. Douglas R. Sherwood
Hanford Project Manager
U.S. Environmental Protection Agency
712 Swift Boulevard, Suite 5
Richland, Washington 99352

Dear Messrs. Lundstrom and Sherwood:

TRANSMITTAL OF THE 200 WEST AREA ASH PIT DEMOLITION SITE CLOSURE PLAN,
REVISION 1 (T-2-2)

The enclosed 200 West Area Ash Pit Demolition Site (Ash Pit) Closure Plan, Revision 1, (T-2-2), and the 200 West Area Ash Pit Demolition Site Closure Plan-Notice of Deficiency Comment Response Resolution Table are submitted by the U.S. Department of Energy (DOE), Richland Operations Office (RL) and the Westinghouse Hanford Company (WHC) for review by the State of Washington Department of Ecology (Ecology). Submittal of these documents by October 6, 1994, fulfills the agreement made by RL and Ecology during the Unit Managers' Meeting held May 24, 1994. The State Environmental Policy Act Checklist forms for the Ash Pit Closure Plan, Rev 0, November 1992 have remained unchanged and will not be included in this transmittal. The Part A will be transmitted to the U.S. Environmental Protection Agency (EPA) and Ecology once it is certified by DOE-RL. *35830*

Copies of this transmittal will be distributed to representatives of your respective organizations as follows:

- D. L. Duncan, EPA
- F. Ma, Ecology, Kennewick
- Ecology Library, Lacey



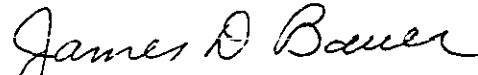
Messrs. Lundstrom and Sherwood
95-PCA-001

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Should you have any questions or require any additional information regarding this submittal, please contact Ms. E. M. Mattlin of RL on (509) 376-2385 or Mr. F. A. Ruck III of WHC on (509) 376-9876.

Sincerely,



James E. Rasmussen, Acting Program Manager
Office of Environmental Assurance,
Permits, and Policy
DOE Richland Operations Office

EAP:EMM



William T. Dixon, Manager
Environmental Services
Westinghouse Hanford Company

Enclosure:

1. Ashpit Closure Plan
2. Ashpit Comment Response
Resolution Table

cc w/encl:

Administrative Records, WHC
B. Burke, CTUIR
D. Duncan, EPA
R. Jim, YIN
F. Ma, Ecology
D. Powaukee, NPT
S. Price, WHC
F. Ruck III, WHC

cc w/o encl:

W. Dixon, WHC
R. Pierce, WHC
R. Stanley, Ecology

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| 1. | <p>Deficiency. The level of detail of several chapters in this closure plan is inadequate.</p> <p>Requirement. The closure plan must contain enough detail to allow the evaluation of whether:</p> <ul style="list-style-type: none">a. the activities described in the plan satisfy the regulations, orb. the conditions assumed in the plan adequately reflect actual conditions of the unit. <p>RL/WHC Response: Comment is too general to address. The level of detail in this closure plan is similar to the level provided in other closure plans which are nearing final approval by Ecology.</p> <p>Ecology Response: Increasing the level of detail of the closure plan will reduce the amount of time and effort necessary to review and revise the document. As far as comparing the level of detail with other closure plans, thus far no closure plans have been approved and conditions can be written into the plan to address deficiencies noted by the regulators.</p> <p>Ecology/RL/WHC Resolution: A parties have agreed that with the incorporation of the resolved NOD comments and DQO discussions that the level of detail in the closure plan will be satisfactory.</p> | |
| 2. | <p>Deficiency. Throughout the closure plan there are references to using only a mobile laboratory for sampling and analysis. It is not stated that this is an EPA accredited laboratory or if any secondary or follow-up analysis will be conducted at an accredited laboratory.</p> | |

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| | <p>The mobile laboratory is good for initial site characterization to determine where contamination is located, but it can not meet SW-846 requirements.</p> <p>There is no discussion of the impact on the closure schedule if the mobile laboratory is not be acceptable or available for the closure.</p> <p>Requirement. Correct the deficiencies of the text.</p> <p>RL/WHC Response: Accepted. Revised text will propose to perform initial (investigative) sampling with analytical support to be provided by the on-site Environmental Analytical Laboratory (EAL), previously referred to as the "mobile laboratory". The EAL will be providing analytical Level II support, as opposed to level III capabilities that were planned for the laboratory at the time Revision 0 of the closure plan was prepared. Tables 7-1, 7-2, 7A-1 and 7A-2 identify analytes of interest for initial sampling.</p> <p>A separate round of confirmatory sampling will be proposed in Revision 1 of the plan. Confirmatory samples will be analyzed by an off-site, Ecology-approved analytical Level III laboratory. Subsequent to initial sampling and analysis and discussion of the results with Ecology, separate data quality objectives and analyte tables for confirmatory sampling will be prepared and documented as addenda to the closure plan.</p> <p>Likewise, if soil removal is undertaken and verification sampling is to be carried out in support of soil removal, samples would be analyzed by an off-site analytical Level III laboratory. Separate data quality objectives and analyte tables would be developed for incorporation as addenda to the plan in that event.</p> | |

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If the EAL is not available to support sampling at the 200-W Ash Pit site, then sample analysis would have to be performed by an off-site contractor laboratory. The following schedule forecast would apply in the event:

- Sampling: 1 week (no change)
- Off-site analysis: 12 weeks (9 weeks longer than shown for EAL)
- Data Evaluation: 12 weeks (no change)

Off-site analysis would add 9 weeks to the initial (investigation) phase of soil sampling. Because the EAL is now offering Analytical Level II services, rather than Level III, an additional round of confirmatory sampling will be required. The breakdown for off-site analysis (listed above) will increase the schedule in Figure 7-2 by 25 weeks.

Ecology Response: Concur with part of revisions of the closure plan to reflect the information provided in the response. However, the increase of 25 weeks is not acceptable according to the Tri-Party Agreement (TPA). In TPA Section 9.6.2, it is stated that non-rad waste analyses have a maximum turnaround time of 50 days. Also in TPA Section 9.6, the maximum validation and transfer times are 21 and 15 days, respectively. Thus, the maximum per Sample Delivery Group (SDG) should be 86 days. Revise the text accordingly.

Due to suspect reporting and record keeping of wastes managed at a similar TSD (218-E-8 Borrow Pit), Appendix IX analysis of 40 CFR part 264 will be required at this unit.

Ecology/RL/WHC Resolution: The mobile laboratory will not be used for these clean closure activities. Throughout the closure plan references to using the mobile laboratory will be removed. Offsite laboratories

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| 3. | <p>capable of EPA analytical level III will be used for all soil samples. All parties agree that Appendix IX analysis of 40 CFR part 264 will not be required at this unit, because all parties have accepted the list of discarded explosive chemical products in chapter 4 as accurate and complete.</p> <p>Comment. The closure plan also cites many internal Westinghouse procedural manuals. It is not clear if these documents fulfill the EPA/Ecology requirement</p> <p>RL/WHC Response: Copies of requested WHC Control Manuals cited in the closure plan were furnished to an Ecology, Kennewick Unit Manager representative.</p> <p>Ecology Response: Concur. Copies of WHC's manuals referenced should be sent to the Department of Ecology's Kennewick office.</p> <p>Ecology/RL/WHC Resolution: WHC's manuals must be assigned to a specific responsible person who is willing to be accountable for updating and maintaining control documents. Therefore no unassigned control reference manuals will be issued.</p> | |
| 4. | <p>1-1, 13 Deficiency. States that, "this event was a form of thermal treatment for <u>spent</u> or <u>abandoned</u> chemical waste." This is inconsistent with the waste description provided in Chapter 3, Process Information. Chapter 3.0 describes the waste as excess or beyond shelf life. If this is the case, then the materials are not spent waste. The contradiction must be corrected because it affects the waste designation.</p> <p>Requirement. Specify the source or process which generated the waste and the form (product versus spent/used material) in which it was</p> | |

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| 5. | <p data-bbox="453 412 1489 477">disposed. Consult the Dangerous Waste Regulations, Washington Administrative Code (WAC) 173-303-070 for designation guidance.</p> <p data-bbox="453 509 1625 639">RL/WHC Response: The chemicals detonated at the Ash Pit site were not spent or abandoned. The text will be revised to state "the chemicals were determined to be in excess or beyond designated stock life," to be consistent with the description in Chapter 3, pg 3-1.</p> <p data-bbox="453 672 1625 737">Ecology Response: Concur with the revision of text to reflect the form in which the wastes were disposed.</p> <p data-bbox="453 769 1596 867">Ecology/RL/WHC Resolution: Through the DQO process all parties agreed that the text would be revised to state " This demolition event was a form of thermal treatment for discarded explosive chemical products."</p> <p data-bbox="453 899 1647 1062">Deficiency. The plan does not present adequate information to determine if the waste has been properly designated. Information regarding the source of the waste (i.e., process derived from) and a distinction between wastes disposed in commercial form and those which were spent material is necessary to make such a determination.</p> <p data-bbox="453 1094 1093 1127">Requirement. See previous comment (4).</p> <p data-bbox="453 1159 1647 1256">RL/WHC Response: See comment 4. Waste characterization per WAC 173-303 is summarized in Table T4-1. The waste codes in Table T4-1 also indicate that the chemicals were not spent.</p> <p data-bbox="453 1289 1596 1451">Ecology Response: The waste codes in Table T4-1 do indicate that the material was not spent, but the table fails to provide enough information to adequately designate the waste. The sources of information provided are inappropriate for the purposes of waste designation.</p> | |

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| 6. | <p data-bbox="444 402 1627 565">Ecology/RL/WHC Resolution: Table T4-1 doesn't attempt to explain waste designation or to provide data to allow waste designation. Waste designation Codes are based on WAC 173-303 and are formally available in the Part A, form 3. Table T4-1 will be revised removing all waste codes and adding health-based limits.</p> <p data-bbox="444 597 1574 662">2-2, 1 Deficiency. The description of the demolition site does not provide adequate detail to allow potential exposure pathways to be evaluated.</p> <p data-bbox="444 695 1613 889">Requirement. Provide description of depth to water table, soil characteristics, meteorological information, and waste containment, if any, used during the detonation. Because the events do not appear to have been contained, these conditions may have significantly influenced the dispersion of contaminants. Therefore, incorporate these factors into the development of an appropriate sampling and analysis plan.</p> <p data-bbox="444 922 1596 987">RL/WHC Response: <u>Meteorological Information:</u> Chemical detonations at this site were performed under the following weather conditions:</p> <p data-bbox="444 1019 957 1052">Detonation Date: November, 1984</p> <ul data-bbox="444 1084 1032 1214" style="list-style-type: none">• Wind speeds: less than 15 m.p.h.;• Temperature: @45° F;• No rain or snow;• No chance of electrical storms. <p data-bbox="444 1247 936 1279">Detonation Date: June 25, 1986</p> <ul data-bbox="444 1312 1000 1442" style="list-style-type: none">• Wind speed: @10 m.p.h.;• Temperature: @95° F;• Clear skies, no rain;• No chance of electrical storms. | |

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| 7. 2-2, 10 | <p>The surface soils were dry when the detonations were performed at this site. All chemicals detonated were contained in their original, closed containers until released by explosive forces.</p> <p>Depth from soil surface to groundwater is 250-260 feet.</p> <p>The text will be revised to reflect the proceeding information.</p> <p>Ecology Response: Concur with the addition to the text of the information provided in the response, but the source of information must be provided.</p> <p>Ecology/RL/WHC Resolution: Information has been incorporated into the text and is located in Chapters 3 and 5. Source of information are WHC documents, referenced in the revised text.</p> <p>Deficiency. The text states that portions of the ash pit were used for other activities. It is not evident from the discussion if these activities impacted the ash pit or not.</p> <p>Requirement. Specify if activities not associated with the demolition events were conducted in or adjacent to the demolition site.</p> <p>RL/WHC Response: The text states that the Ash Pit Demolition site is only 20' by 20' area and is situated within a huge borrow pit (with the dimension of 600 feet by 800 feet). Both the burning and soil removal activities occurred away from the detonation site. There were only two known demolition activities at the demolition pit. Please see page 2-2, line 14-15.</p> <p>Ecology Response: Concur with the addition to the text.</p> | |

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| 8. | <p data-bbox="463 396 1576 467">Ecology/RL/WHC Resolution: Text has been modified to further clarify separate activities that occurred in the borrow pit.</p> <p data-bbox="314 493 1640 565">2-2, 22 Deficiency. It is not clear how the boundary of the demolition site was determined.</p> <p data-bbox="463 591 1591 695">Requirement. Provide rationale for boundary determination. The boundary of the site may have to be revised if contamination from the unit is detected outside the designated area.</p> <p data-bbox="463 721 1625 889">RL/WHC Response: Please see page 2-2, line 20. At the time the fence was placed at the demolition site, there was still a depression in the soil from the blasting pit. If contamination from the unit is detected outside the designated area, the boundaries will be adjusted accordingly.</p> <p data-bbox="463 915 1625 1019">Ecology Response: Concur with the adjustment of unit boundary based on sampling and analysis data. The sampling and analysis of areas outside the present arbitrary boundary must be included in the closure plan.</p> <p data-bbox="463 1045 1608 1182">Ecology/RL/WHC Resolution: Through the DQO process sampling locations and analytical methods were agreed upon. Agreements are documented in the Sampling and Analysis Plan, located in Appendix 7C in the closure plan.</p> | |
| 9. | <p data-bbox="314 1214 1608 1318">2-2, 27 Note. This section of the closure plan, Security Information, may require revision due to the recent and upcoming security downgrades on the Hanford Site.</p> <p data-bbox="463 1344 1576 1414">RL/WHC Response: Accepted. Text will be revised to reflect any new security changes to the Hanford Site.</p> | |

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| Ecology Response: Concur. | | |
| 10. | <p data-bbox="321 487 421 527">3-1, 1</p> <p data-bbox="470 487 1627 787">Deficiency. A major deficiency of the plan was information on the actual demolition event. The process information chapter does not provide a description of the event or associated actions. For example, was any post-treatment analysis conducted to verify treatment, or physical interaction with the site such as racking, shoveling, or watering down? Was waste containerized or free in pit during detonation? How were waste containers managed during and after the event? What color, how high, how wide was the explosion? Was material seen or heard hitting the ground?</p> <p data-bbox="470 820 1627 885">Requirement. Provide a detailed narrative of the event and associated actions. The following questions need to be addressed:</p> <ul data-bbox="470 917 1627 1079" style="list-style-type: none">a. Was the waste poured directly on the ground, allowing wastes to be forced into the ground by the explosion?b. How were the waste containers managed during and after the event?c. What were the environmental conditions at the time?d. How, or was, waste inventory verified? <p data-bbox="470 1112 734 1144">RL/WHC Response:</p> <ul data-bbox="470 1144 1627 1409" style="list-style-type: none">a. No container contents were poured onto the ground prior to detonation. The chemicals were detonated in their containers because opening the cap of the container could have initiated an explosion.b. Prior to detonation, the containers were placed in a small pit, wrapped in detonating cord (on a separated blasting cap), surrounded with a blasting agent. The charges were configured in a manner that channeled the explosive force downward. | |

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| | <p>There was no evidence of remaining explosives, chemicals, or containers after the detonations, with the exception of the sides of one metal container from the 1986 detonation. The partial container was completely empty and burned. The remains of the container was disposed of in a sanitary landfill.</p> <p>c. Refer to RL/WHC response to NOD #6.</p> <p>d. A checklist of the chemical inventory was prepared prior to beginning detonation activities. The potentially explosive chemicals were checked off the list as they were placed into a portable bomb containment vessel for transportation to the demolition site. Information from the checklist was used to prepare the Dangerous Waste Annual Report.</p> <p>The text will be revised accordingly in order to reflect the proceeding information.</p> <p>Ecology Response:</p> <p>a. Concur with addition of this information in text.</p> <p>b. Concur with addition of this information in text. Elaborate on the impact to waste deposition.</p> <p>Note. Disposal of the remnants of a waste container in a sanitary landfill was inappropriate, due to the fact that without analysis, it was not possible to determine if the container contained a listed waste or not. If it did, the container would have been considered a listed waste.</p> <p>c. Refer to comment on NOD No. 6.</p> | |

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| 11. | <p>d. Quality control or verification documentation for the chemical inventory detonated at the unit does not appear to exist. Soil sampling and analysis will require enhancement to assure potential contamination is not missed. Modify text to incorporate Appendix IX of 40 CFR part 264.</p> <p>Ecology/RL/WHC Resolution: (d) The inventory has been corrected and approved by all parties. Text has been revised to reflect accepted inventory. All parties agree that Appendix IX analysis of 40 CFR part 264 will not be required at this unit.</p> <p>3-1, 8 Deficiency. This section of the plan describes the wastes as "excess or beyond designated stock life." Page 1-1, line 11 states that "this event was a form of thermal treatment for <u>spent</u> or <u>abandoned</u> chemical waste."</p> <p>Requirement. Specify the source or process which generated the waste and the form (product versus spent/used material) in which it was disposed. Consult the Dangerous Waste Regulations, Washington Administrative Code (WAC) 173-303-070 for designation guidance.</p> <p>RL/WHC Response: See comment #4.</p> <p>Ecology Response: Concur with the revision of text to reflect the form in which the wastes were disposed.</p> <p>Ecology/RL/WHC Resolution: Through the DQO process all parties agreed that the text would be revised to state " This demolition event was a form of thermal treatment for discarded explosive chemical products."</p> | |
| 12. | <p>3-1, 25 Deficiency. The text states that chemicals were placed at the bottom of the pit with detonation devices placed around and on top of the</p> | |

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chemicals. There is no discussion of how, or if, the waste was containerized.

Requirement. Provide a detailed description of the number, composition, volume, and management practices of the containers associated with the wastes detonated at the site. Were the containers, or pieces of containers, removed from the site? If so, how were they managed? State exactly how the wastes were placed in the pit (i.e., poured out of containers).

Note. Placement of the detonation devices on top of the waste is of concern because it may have forced the waste into the soil due to the force of the explosion.

RL/WHC Response: See comment response #10. In response to the note, the shape of the charge was configured in a manner which initially directed the explosive force downward, but due to the confines of the earthen pit, the force reversed to an upward direction (the path of least resistance). Confining the heat and pressure of the explosive force around the chemicals increased the efficiency of destruction.

Ecology Response: See NOD No. 10 response.

Ecology/RL/WHC Resolution: Detailed descriptions of the detonation event and the placement of waste were located in Chapter 3. In Chapter 3, lines 36-40, the text has been revised to read " There was no evidence of remaining explosives, chemicals, or containers after the detonations, with the exception of the sides of one metal container from the 1986 detonation. The partial container was found empty and burned. The remains of the container were disposed in a sanitary landfill." Table 4-1 list the amounts and number of discarded explosive chemical products.

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| 13. | <p>3-1, 27 Deficiency. Detonation materials are not included in the scope of sampling and analysis. These materials are now dangerous waste, because they were both derived from the treatment of dangerous waste and now are potentially mixed with dangerous wastes.</p> <p>Requirement. The explosives used to initiate the detonation (and any regulated products potentially generated from the detonation) must be incorporated into the sampling and analysis plan.</p> <p>RL/WHC Response: The chemicals used to initiate the detonation will be listed in a separate table in Chapter 4. The sampling plan will be modified to reflect the additional analytes.</p> <p>Ecology Response: Concur with the inclusion of detonation materials in list of analytes. Also include reaction and/or decomposition products as analytes. Additionally, due to suspect reporting and record keeping of wastes managed at a similar TSD (218-E-8 Borrow Pit), Appendix IX analysis of 40 CFR part 264 will be required at this unit.</p> <p>Ecology/RL/WHC Resolution: Through the DQO process sampling locations and analytical methods were agreed upon. Agreements are documented in the Sampling and Analysis Plan, located in Appendix 7C in the closure plan. All parties agree that Appendix IX analysis of 40 CFR part 264 will not be required at this unit, because all parties have accepted the list of discarded explosive chemical products in chapter 4 as accurate and complete.</p> | |
| 14. | <p>3-1, 29 Comment. The text states that inspections were conducted following the detonation event.</p> | |

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| 15. | 4-1 | <p>Requirement. Provide detailed description of the focus of inspection, environmental conditions, size, and intensity of the explosion, and any "unofficial" inspection reports or records.</p> <p>RL/WHC Response: After each detonation, the site was inspected to ensure that no explosives, chemicals, or containers remained after the shot. After the 1986 detonation, the soils in and surrounding the pit were surveyed with a organic photoionizer (with an 11.2 ev probe) to determine if there were any residual volatile organics. There were no reading above background.</p> <p>Because the 1984 detonation was at night, the area was searched with spotlights and flashlights after the detonation. The area was reinspected the following morning after daylight. No containers were found.</p> <p>The size of the detonations were not recorded and therefore the description would be nebulous.</p> <p>Ecology Response: Insert information provided in response into closure plan.</p> <p>Ecology/RL/WHC Resolution: Information has been incorporated into the text and is located in Chapter 3.</p> <p>Deficiency. This chapter provides some valuable information, but overall it is inadequate.</p> <p>Suggestion. Incorporate a column specifying the waste source (i.e., spent or in commercial form), the physical state, and action levels.</p> |

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| | <p>RL/WHC Response: Health-based cleanup thresholds will be provided in the next revision of this closure plan, for those constitutes for which appropriate toxicity information is available.</p> <p>Ecology Response: The response does not address the deficiencies noted. Because sections -700 to -760 of MTCA is expected to be incorporated into the Dangerous Waste Regulations before implementation of the closure plan, it is appropriate to incorporate MTCA standards (see draft clean closure guidance). But the information regarding the waste source and physical state will be required to be incorporated into the closure plan.</p> <p>Ecology/RL/WHC Resolution: Through the DQO process all parties agreed that to meet criteria for clean closure of the Ash Pit Demolition Site, the soil sampling and analytical results must verify that the levels of discarded explosive chemical products derived from the Ash Pit Demolition Site operations are below action levels. Agreed action levels are defined as levels above the Hanford Site soil background levels identified in <i>Hanford Site Background: Part 1, Soil Background for Nonradioactive Analytes</i> and Model Toxic Control Act (MTCA) Method B levels. Since Hanford Site soil background levels and MTCA Method B levels are the closure criteria agreed upon by all parties it reasonable that those levels would be provided in Table 4. The physical form of the discarded explosive chemical products and initiator will be indicated in Table 4-1.</p> | |
| 16. T4-1 | <p>Deficiency. Several blanks exist on the second and third page of the table. This is inappropriate. The missing components of the table and the statement that "the known inventory of chemicals that were detonated is listed in Table 4-1" (4-1, 12) raises concerns regarding the accuracy of the information presented.</p> | |

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| | <p>Requirement. Provide the missing information.</p> <p>RL/WHC Response: The blank spaces indicate that the chemicals are part of a mixture and the total amount of those mixtures are shown at the beginning of each mixture listing. The table will be revised to clearly indicate chemical mixtures.</p> <p>Ecology Response: Concur.</p> | |
| 17. | <p>T4-1 Deficiency. It is not apparent how the dangerous waste codes presented in Table T4-1 were determined, or if they are correct. The sources of information are not appropriate for the purpose of designating waste.</p> <p>Requirement. Correct deficiencies and discrepancies of text.</p> <p>RL/WHC Response: The chemicals were treated in their original containers and assumed to be either outdated or not needed. These chemicals were designated according to WAC 173-303. Any assumptions concerning waste sources were conservative (i.e., in instances where the applicability of a code was uncertain, it was assumed to be applicable). Waste characteristics were derived from known physical properties and toxicity information available for the waste constituents.</p> <p>Ecology Response: Concur with response. Revise the closure plan to reflect the information provided in the response.</p> <p>Ecology/RL/WHC Resolution: Information on the discarded explosive chemical products has been incorporated into the text and is located in Chapters 3 and 4.</p> | |
| 18. | <p>T4-1 Deficiency. The detonation material is potentially regulated dangerous waste. However, the material and its products are not designated.</p> | |

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| 19. | <p>T4-1</p> <p>Requirement. Correct deficiencies and discrepancies of text. Designate the material.</p> <p>RL/WHC Response: See comment response #13.</p> <p>Ecology Response: Concur.</p> <p>Deficiency. An asterisk is present on the "D" symbol in the key list following Table 4-1, typically indicating a reference to a clarifying statement, but no footnote or explanation is provided.</p> <p>Requirement. Correct deficiencies and discrepancies of text.</p> <p>RL/WHC Response: Asterisk will be removed from Table 4-1.</p> <p>Ecology Response: Concur.</p> | |
| 20. | <p>5-1</p> <p>Deficiency. The text states that the Tri-Party Agreement (TPA) authorizes ground water to be remediated under CERCLA without intermittent RCRA monitoring. This is not correct. RCRA monitoring is required, but it may be coordinated with CERCLA monitoring.</p> <p>Requirement. Modify the text accordingly.</p> <p>RL/WHC Response: The text will be revised as follows: "The Ash Pit Demolition site is not subject to the groundwater monitoring requirements of WAC 173-303-610 (7)(a) if there is not waste left in place, as is consistent with the preferred closure strategy (Chapter 6.0) The Ash Pit Demolition site will not be operated, and has not been operated as a dangerous waste surface impoundment, waste pile, land treatment unit, or landfill as defined in WAC 173-303-645(1)(a).</p> | |

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| | <p>Therefore, if clean or protective closure can be attained, groundwater monitoring is not required."</p> <p>Ecology Response:</p> <p>a. Give the definition of "Protective Closure."</p> <p>b. 200 W. APDS is regulated as a miscellaneous unit under WAC 173-303-680(4). The regulation requires that the unit must meet the postclosure care requirements of WAC 173-303-680(2), if the contaminated soils or ground water cannot be completely removed or decontaminated during closure.</p> <p>Ecology/RL/WHC Resolution: Text referring to Protective Closure has been removed. Clean closure is the objective of this closure plan. The criteria for clean closure is if sample analysis results indicate that the constitutes of concern are at or below action levels as defined in the closure plan. Postclosure monitoring is not required if clean closure is attained.</p> | |
| 21. | <p>6-1, 17 Requirement. Action levels must be approved by Ecology.</p> <p>Suggestion. A table should be generated which integrates this information in Table 4-1.</p> <p>RL/WHC Response: Action levels will be prepared for inclusion in the next revision of this closure plan. Proposed action levels will be health based cleanup thresholds.</p> <p>Ecology Response: Although the term "action levels" is defined within the closure plan as "concentrations of analytes of interest that prompt an action . . . ," the term is not defined by WAC 173-303. As the</p> | |

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| 22. | <p data-bbox="449 398 1619 596">closure plan addresses a RCRA unit, and to avoid confusion on this subject, delete the term "action level." It should be noted that a definition for "cleanup level" is provided by WAC 173-340-200 which may be utilized by reference of proposed WAC 173-303-610 (scheduled to promulgated in Dec. 1993 to amend WAC 173-303-610 to include WAC 173-340-700 through 760 except 745).</p> <p data-bbox="449 629 1604 794">Ecology/RL/WHC Resolution: Through the DQO process, action levels were defined and agreed to by all parties, as levels above the Hanford Site soil background levels identified in <i>Hanford Site Background: Part 1, Soil Background for Nonradioactive Analytes (DOE-RL 1993)</i> and Model Toxic Control Act (MTCA) (WAC 173-340) Method B levels.</p> <p data-bbox="449 827 1587 1025">Deficiency. Table 7-1, referenced here, is said to take into account waste inventory, reaction products, and chemical degradation. The following sentence states that only analytes listed in Table 7-1 are traceable to the demolition site. Table 7-1 does not account for all wastes detonated at the site or potentially regulated reaction or degradation products.</p> <p data-bbox="449 1058 1604 1191">Requirement. The closure plan must account for all dangerous wastes associated with the detonation site. This includes dangerous wastes generated from the treatment of the original wastes and materials used to treat the waste (i.e., the detonation materials).</p> <p data-bbox="449 1224 1634 1419">RL/WHC Response: Text on Page 6-1, Lines 19-23 will be modified to read as follows: "The basis for determining chemical ownership is the list of analytes of interest found in Chapter 7.0, Table 7-1, <u>as qualified by the discussion in Section 7.2.2.</u> Only <u>those analytes identified in Section 7.2.2 and/or Table 7-1</u> are traceable to the Ash Pit Demolition Site activities."</p> | |

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| 23. | <p>6-1, 23 Table 7-1, as qualified by the discussion in Section 7.2.2, accounts for all dangerous wastes associated with the detonation site. Regarding the detonation materials, refer to NOD # 18 comment response.</p> <p>Ecology Response: Refer analytes traceable to the Ash Pit Demolition Site activity to NOD No. 2 response. Refer waste generated from the detonation event and the detonation materials to NOD No. 13 response.</p> <p>Ecology/RL/WHC Resolution: Through the DQO process constituents of concerns and analytical methods were identified and agreed to by all parties. See the Sampling and Analysis Plan (SAP) for specific agreements.</p> <p>Note. The plan states, "if at any time an imminent hazard is posed at the Ash Pit Demolition Site, an expedited response will result to ensure worker safety."</p> <p>Requirement. Closure of the site must be conducted in a manner consistent with the closure plan. Deviation from the closure plan must be approved by Ecology.</p> <p>RL/WHC Response: The word "expedited" will be replaced with the word "emergency" in order to clarify the sentence.</p> <p>Ecology Response: Concur with the correction.</p> | |
| 24. | <p>6-1, 31 Deficiency. The plan states that background will be site-wide background threshold values as defined in the Hanford Site Soil Background (DOE/RL 1992a).</p> | |

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| 25. | <p data-bbox="459 398 1638 492">Requirement. Ecology must review and approve the Hanford Site Soil Background study (DOE/RL 1992a) before the values can be implemented for closure.</p> <p data-bbox="459 530 1574 591">RL/WHC Response: Ecology has reviewed and approved <u>the Hanford Site Soil Background Study</u> (DOE/RL 1992a).</p> <p data-bbox="459 629 1638 789">Ecology Response: Ecology did receive <u>The Hanford Site Soil Background</u> (DOE/RL 1992d). However, the document was considered incomplete. There is still a huge task ahead in order to finish the site-wide background analysis (see detail in the memo from Charles Cline, WA State Department of Ecology, to Steven Wisness, US DOE, dated May 10, 1993).</p> <p data-bbox="459 827 1591 921">Requirement: Ecology must review and approve the <i>Hanford Site Soil Background</i> for RCRA closures before the values can be implemented for closure..</p> <p data-bbox="459 959 1638 1087">Ecology/RL/WHC Resolution: Through the DQO process all parties have agreed to use Hanford Site Soil Background levels as one of the criteria for action levels. Also the Hanford Soil Background is listed as a closure performance standard in the Site-Wide Permit, Section II.K.2.</p> <p data-bbox="459 1125 1638 1356">Deficiency. The plan states that if concentrations exceed initial action levels, health-based action levels will be assessed. This is not consistent with clean closure standards. It is expected that during the next revision of the Dangerous Waste Regulations, WAC 173-303, that the Model Toxics Control Act (MTCA) will be incorporated into the closure requirements. To date no guidance or policy has been issued allowing this approach to be implemented.</p> <p data-bbox="459 1389 1585 1453">Requirement. If the concentration of waste are below (or reduced to) background levels for listed or characteristic wastes or to the</p> | |

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| | <p>designation limit for state-only waste managed at the site clean closure will be achieved. If the site is closed with waste left in place post-closure requirements will be imposed.</p> <p>RL/WHC Response: In anticipating the incorporation of cleanup levels rather than environmental background levels, into the Washington State Department Waste regulations, RL contends it is appropriate to use health-based action levels.</p> <p>Ecology Response: Refer the action level to NOD No. 21 response.</p> <p>Ecology/RL/WHC Resolution: Through the DQO process all parties agreed that to meet criteria for clean closure of the Ash Pit Demolition Site, the soil sampling and analytical results must verify that the levels of discarded explosive chemical products derived from the Ash Pit Demolition Site operations are below action levels. Agreed action levels are defined as levels above the Hanford Site soil background levels identified in <i>Hanford Site Background: Part 1, Soil Background for Nonradioactive Analytes</i> and Model Toxic Control Act (MTCA) Method B levels.</p> | |
| 26. | <p data-bbox="321 1063 438 1096">6-1, 37</p> <p data-bbox="470 1063 1615 1229">Deficiency. This paragraph discusses the proposed method to determine cleanup levels. It is said that the health-based levels will be based on equations and exposure assumptions presented in the Hanford Site Baseline Risk Assessment Methodology (DOE/RL 1992B). This is not appropriate.</p> <p data-bbox="470 1262 1598 1328">Requirement. Health-based levels are determined from the Model Toxic Control Act (MTCA). See two previous comments.</p> <p data-bbox="470 1361 1615 1432">RL/WHC Response: RL has attempted to establish a uniform health-based cleanup standard for a range of land-use eventualities (Hanford Site</p> | |

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Baseline Risk Assessment Methodology [HSBRAM]; referenced in the closure plan). Preparation of this standard is sanctioned by the Tri-Party Agreement process (Milestone number M-29-03). It is intended to provide a risk assessment methodology that is consistent with current regulations and guidance. The method was developed specifically to evaluated risk for CERCLA remedial investigations and RCRA facility investigations. The health-based method of HSBRAM is similar to, and consistent with the Model Toxics Control Act (MTCA [WAC 173-340]). HSBRAM has been accepted by the EPA and Ecology generally at the Hanford Site, and is consistent with the consensus of TPA project manager meetings and Ecology's standards will replace background in WAC 173-303. HSBRAM is proposed in the Ash Pit Demolition closure plan.

Ecology Response: HSBRAM has not yet been approved by Ecology. Instead only some of the risk assessment requirements of the MTCA Cleanup Regulation were incorporated in HSBRAM by DOE (see detail in the Memo from DOE to George Hofer, US EPA, and Roger Stanley, WA Department of Ecology, dated May 5, 1993). Therefore, the health-based levels should substituted, where appropriate, with Model Toxics Control Act (MTCA) cleanup levels, if applicable.

Ecology/RL/WHC Resolution: Through the DQO process all parties agreed that to meet criteria for clean closure of the Ash Pit Demolition Site, the soil sampling and analytical results must verify that the levels of discarded explosive chemical products derived from the Ash Pit Demolition Site operations are below action levels. Agreed action levels are defined as levels above the Hanford Site soil background levels identified in *Hanford Site Background: Part 1, Soil Background for Nonradioactive Analytes* and Model Toxic Control Act (MTCA) Method B levels.

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| 27. | <p>6-1, 47 Deficiency. The plan states that health-based levels will be based on values that are current at the time of approval of this closure plan.</p> <p>Requirement. Ecology must approve all health-based levels implemented for closure.</p> <p>RL/WHC Response: Please see page 6-1, line 44-47. The term "values" in this sentence is referring to the oral reference dose and slope factors obtained for the Integrated Risk Information System (IRIS) (EPA 1991) database, these values may change as IRIS is updated.</p> <p>Ecology Response: Concur.</p> | |
| 28. | <p>6-1, 50 Deficiency. This paragraph discusses remedial activities and coordination with CERCLA remediation if it is determined that the action levels are exceeded.</p> <p>Requirement. CERCLA coordination is acceptable if the time frame and other factors can be integrated with the RCRA closure. But closure of the unit will not be deferred to, or preempted by, the CERCLA remediation. If clean closure is not achieved, post-closure requirements will be imposed, including requirements to assure residual contamination will be addressed during CERCLA remediation.</p> <p>RL/WHC Response: Coordination is planned if clean closure is not achieved. RL would keep Ecology informed on this integration process whenever it occurred. Please clarify the statement that closure cannot be deferred until CERCLA remediation.</p> <p>Ecology Response: Refer the action level to NOD No. 21 response. If clean closure can not be achieved, postclosure requirement will be required regardless if CERCLA remediation is available or not at that</p> | |

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| | <p>time. If the coordination between RCRA and CERCLA is planned for postclosure care, give explicitly the planned time schedule in the next revision.</p> <p>Ecology/RL/WHC Resolution: Through the DQO process all parties have agreed to develop a phase two investigation if the soil analysis results were determine to be above action levels. Text referring to the contrary has been removed.</p> | |
| 29. | <p data-bbox="321 678 1570 743">6-2, 10 Requirement. Simply cite the regulations or incorporate the entire section.</p> <p data-bbox="470 776 1630 813">RL/WHC Response: Reference has been changed to WAC 173-303-610 (2)(a).</p> <p data-bbox="470 841 1221 878">Ecology Response: Concur with the correction.</p> | |
| 30. | <p data-bbox="321 906 1634 1008">6-2, 36 Deficiency. The plan states that the following actions will be/or have been taken. It is not clear which actions were conducted prior to preparation and approval of the closure plan.</p> <p data-bbox="470 1036 1619 1105">Requirement. Actions conducted prior to submittal of the closure plan must be distinguished in order to evaluate the adequacy.</p> <p data-bbox="470 1133 1587 1203">RL/WHC Response: Any action that has been already completed will be noted in the text.</p> <p data-bbox="470 1230 1221 1268">Ecology Response: Concur with the correction.</p> <p data-bbox="470 1295 1570 1365">Ecology/RL/WHC Resolution: Text has been revised to note completion dates of past activities.</p> | |

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| 31. | <p>6-2, 43 Deficiency. This bullet states that the Hanford Site Baseline Risk Assessment Methodology implements WAC 173-304 (MTCA).</p> <p>Requirement. See comment 24.</p> <p>RL/WHC Response: See comment responses # 24 and # 26.</p> <p>Ecology Response: See NOD Nos. 24 and 26 responses.</p> <p>Ecology/RL/WHC Resolution: Reference to Hanford Site Baseline Risk Assessment Methodology has been removed from text.</p> | |
| 32. | <p>6-3, 20 Deficiency. The plan states that the samples will be analyzed in an on-site mobile laboratory capable of performing to EPA Analytical level III standards.</p> <p>Requirement. See comment 2.</p> <p>RL/WHC Response: See comment response #2.</p> <p>Ecology Response: See NOD No. 2 response.</p> <p>Ecology/RL/WHC Resolution: Throughout the closure plan references to using the mobile laboratory will be removed. Offsite laboratories capable of EPA analytical level III will be used for all soil samples.</p> | |
| 33. | <p>6-3, 29 Deficiency. Table 7-1, referenced here, provides a list of target analytes that is inadequate because it does not address by-product and degradation products.</p> <p>Requirement. Modify text accordingly. See comment 22.</p> | |

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| | <p>RL/WHC Response: See comment response #22.</p> <p>Ecology Response: See NOD No. 22 response.</p> <p>Ecology/RL/WHC Resolution: Through the DQO process constituents of concerns and analytical methods were identified and agreed to by all parties. See the Sampling and Analysis Plan (SAP) for specific agreements.</p> | |
| 34. | <p>6-3, 34 Deficiency. This section of the plan addressed contamination at the demolition site above the action levels only in the near-surface soils. It is not appropriate to address only near-surface contamination.</p> <p>Requirement. Removal of deeper residual contamination may be coordinated with CERCLA remediation but investigation and planning can not be deferred. If such an approach were implemented a plan would have to be developed to assure that RCRA closure standards would be met by the final remediation.</p> <p>Note. Action levels described here are not consistent with other areas of the text. Health-based levels should not be used to define action levels at this point.</p> <p>RL/WHC Response: See comment response #48.</p> <p>Ecology Response: Refer the action level to NOD No. 21 response. See also NOD Nos. 47 and 48 responses.</p> <p>Ecology/RL/WHC Resolution: Reference to "near-surface" contamination has been removed from text. If levels of constituents of concern are above action levels then a phase two investigation will be developed by all parties concerned.</p> | |

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| 35. | <p>7-1, 28 Deficiency. The plan specifies that samples will be analyzed by an on-site mobile laboratory capable of performing to EPA analytical level III standards.</p> <p>Requirement. Explain analytical level III services as it applies to this closure. Specify if the mobile laboratory meets level III requirements. See comment 2.</p> <p>RL/WHC Response: See comment response #2.</p> <p>Ecology Response: See NOD No. 2 response.</p> <p>Ecology/RL/WHC Resolution: Throughout the closure plan references to using the mobile laboratory will be removed. Offsite laboratories capable of EPA analytical level III will be used for all soil samples.</p> | |
| 36. | <p>7-1, 32 Deficiency. The text states that portable field-screening instruments will provide adequate information for devising and implementing appropriate remedial actions.</p> <p>Requirement. Specify if more elaborate sampling and analysis will be conducted if constituents are found at significant concentrations.</p> <p>RL/WHC Response: Text is misquoted. Text reads "... the data obtained from soil sampling and analysis (possibly supplemented by data obtained with portable field screening instrumentation) will provide adequate information for devising and implementing appropriate remedial action."</p> <p>Confirmatory sampling (i.e., more elaborate sampling) is proposed to support a regulatory determination of clean closure. There is no technical need or justification for conducting "more elaborate sampling and analysis" to support a remedial action.</p> | |

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| 37. | <p>7-2, 27 Ecology Response: The purpose of the plan is to close the demolition site rather than remediate it. In order to clean close the unit, the contaminated soil or ground water should either be removed or decontaminated, otherwise the postclosure care is required. The soil sampling and analysis should emphasize this.</p> <p>Ecology/RL/WHC Resolution: Through the DQO process all parties have agreed to develop a phase two investigation if the soil analysis results were determine to be above action levels. Text referring to the contrary has been removed.</p> <p>Deficiency. This paragraph discusses the possibility for the generation of by-products from the detonation event.</p> <p>Requirement. Incorporate regulated products into the analyte list.</p> <p>RL/WHC Response: See comment response #22.</p> <p>Ecology Response: See NOD No. 23 response.</p> <p>Ecology/RL/WHC Resolution: Through the DQO process all sampling and analytical concerns were resolved. Constituents of concerns and analytical methods were identified and agreed to by all parties. See the Sampling and Analysis Plan (SAP) for specific agreements. Table 4-2 list detonation materials.</p> | |
| 38. | <p>7-2, 34 Deficiency. This paragraph discusses the potential dispersion of waste from the detonation event. This factor will influence the determination of the boundary.</p> <p>Requirement. Modify text to reflect this consideration.</p> | |

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| | RL/WHC Response: See comment response #48. Ecology Response: See NOD Nos. 47 and 48 responses. Ecology/RL/WHC Resolution: Through the DQO process all sampling and analytical concerns were resolved, which include sampling locations and boundaries. Constituents of concerns and analytical methods were identified and agreed to by all parties. See the Sampling and Analysis Plan (SAP) for specific agreements. | |
| 39. | 7-2, 47 Deficiency. This section refers to the waste inventory list. The waste inventory list is inadequate. Requirement. It must account for all dangerous wastes detonated or generated from the detonation at the site. RL/WHC Response: See comment response #18. Ecology Response: See NOD No. 13 response. Ecology/RL/WHC Resolution: The inventory has been approved by all parties. Text has been revised to reflect accepted inventory | |
| 40. | 7-3, 5 Requirement. See comments 38 and 39. RL/WHC Response: See comment responses #22 and #48. Ecology Response: See NOD Nos. 13 and 47 responses. Ecology/RL/WHC Resolution: Through the DQO process all sampling and analytical concerns were resolved. Constituents of concerns and analytical methods were identified and agreed to by all parties. See the Sampling and Analysis Plan (SAP) for specific agreements. | |

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| 41. | <p data-bbox="319 389 1617 495">7-3, 11 Note. It is stated that the concentrations of any dangerous waste constituents that may remain in the soil after closure would probably exist at very low concentrations.</p> <p data-bbox="319 519 1617 592">Requirement. Specify whether the mobile laboratory will, or will not, be able to detect such concentrations.</p> <p data-bbox="319 617 1617 852">RL/WHC Response: Taken out of context; terms such as "low" or "very low" do not have quantitative significance. The intent of the cited statement in context, as indicated in the sentence that follows in the text, is to justify a conservative approach to initial sampling and analysis (as opposed to, for example, doing level I field screening initially). Method detection limits are identified on Pages 7-8 and 7-9.</p> <p data-bbox="319 876 1617 917">Ecology Response:</p> <p data-bbox="319 941 1617 1047">a. If initial samples at level II (EAL) indicate a "no action," confirmatory level III analyses will have to be done to verify this alternative.</p> <p data-bbox="319 1071 1617 1177">b. For every fifth sample, a split has to be taken and sent off for level III analyses. This will help in determining validity of level II analyses as well as give some ICP/AA metals analyses.</p> <p data-bbox="319 1201 1617 1438">Ecology/RL/WHC Resolution: Throughout the closure plan references to using the mobile laboratory will be removed. Offsite laboratories capable of EPA analytical level III will be used for all soil samples. Also through the DQO process all sampling and analytical concerns were resolved. Constituents of concerns and analytical methods were identified and agreed to by all parties. See the Sampling and Analysis Plan (SAP) for specific agreements.</p> | |

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| 42. | <p>7-3, 15 Requirement. See comment 38 and 39.</p> <p>RL/WHC Response: See comment responses #22 and #48.</p> <p>Ecology Response: See MOD Nos. 13 and 47 responses.</p> <p>Ecology/RL/WHC Resolution: Through the DQO process all sampling and analytical concerns were resolved. Constituents of concerns and analytical methods were identified and agreed to by all parties. See the Sampling and Analysis Plan (SAP) for specific agreements.</p> | |
| 43. | <p>7-3, 18 Deficiency. Portable field screening instruments are considered level I, not level I or II.</p> <p>Requirement. Modify the text to reflect this consideration.</p> <p>RL/WHC Response: Accepted. See comment response #2.</p> <p>Ecology Response: Concur with the correction.</p> <p>Ecology/RL/WHC Resolution: Offsite laboratories capable of EPA analytical level III will be used for all soil samples. Reference to the use of portable field screening instruments will be removed.</p> | |
| 44. | <p>7-3, 43 Deficiency. It is not clear why Methyl Ethyl Ketone was the only compound selected from the Toxic Characteristics List.</p> <p>Requirement. Provide a thorough discussion of this determination.</p> <p>RL/WHC Response: Text should read "... two target compound list (TCL) compounds: benzene and toluene." Benzene and toluene are the only TCL compounds among the analytes of interest listed in Table 7-1. MEK was</p> | |

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| | inserted in the text in place of benzene and toluene as the consequence of an editing error. | |
| | Ecology Response: Revise text accordingly to correct errors. | |
| | Ecology/RL/WHC Resolution: Through the DQO process all sampling and analytical concerns were resolved. Constituents of concerns and analytical methods were identified and agreed to by all parties. See the Sampling and Analysis Plan (SAP) for specific agreements. | |
| 45. | 7-4, 1 Deficiency. There is concern for on-site calibration of instruments. Is it conceivable that the instruments may be less sensitive because of local contamination? | |
| | Requirement. Provide a discussion to demonstrate that this concern has or will be addressed. | |
| | RL/WHC Response: The citation discusses preparation or acquisition of solutions that would be used as calibration standards (i.e., for equipment such as gas chromatograph, and GC/MS devices). These types of devices are virtually always calibrated on site, because most of them are fixed equipment. Calibration will be managed and controlled per EAL technical and operating procedures. All proposed EAL analytical procedures, will be submitted to Ecology for review and approval in advance of sampling. These types of devices are virtually always calibrated in place, insofar as they generally are fixed equipment. | |
| | Ecology Response: Concur. | |
| | Ecology/RL/WHC Resolution: Throughout the closure plan references to using the mobile onsite laboratory will be removed. Offsite | |

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| 46. | <p>laboratories capable of EPA analytical level III will be used for all soil samples.</p> <p>7-4, 28 Deficiency. Table 7-1, cited here, is incomplete. Several metals are present in combined form as indicated by the list provided in chapter 4. Pure metals are not expected to be found at the site.</p> <p>Requirement. Incorporate sampling and analysis for all regulated compounds detonated or generated at the site.</p> <p>RL/WHC Response: Rationale for all modifications and/or deletions to the analytes of interest list are provided on page 7-4, line 38, continuing to page 7-5, line 37.</p> <p>Ecology Response: Concur with the explanations. However, it is required to do metals analysis using SW-846 method nos. 6010, 7421, 7471, 7740, and 7060 at investigative phase. If any metal is found, the same tests will have to be done at the confirmatory phase to prove clean closure.</p> <p>Ecology/RL/WHC Resolution: Through the DQO process all sampling and analytical concerns were resolved. Constituents of concerns and analytical methods were identified and agreed to by all parties. See the Sampling and Analysis Plan (SAP) for specific agreements. Table 7-1 has been removed from the text.</p> | |
| 47. | <p>7-5, 45 Requirement. The sampling design must be evaluated by a statistician prior to conducting any work to determine if the sampling and analysis are adequate to determine the extent of contamination.</p> <p>In addition to random sampling, add a provision for bias sampling in areas of visual contamination, down wind, and deeper in pit areas.</p> | |

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| | <p>RL/WHC Response: Current commitments call for RL and WHC to sample and analyze the near-surface soils using the EAL for analytical support. The EAL (analytical Level II) generally provides method detection limit capabilities in the low PPM range, which should compare favorably with proposed action limits for the analytes of interest.</p> <p>If the initial round of sampling should indicate that any of the analytes of interest in Table 7-1 are present at concentrations exceeding proposed action levels, then supplemental sampling will be undertaken. A new sampling arrangement would be developed for supplemental sampling, working outward from the "hot spot" locations identified previously. The supplemental sampling plan would be reviewed in advance with Ecology. Field screening methods may be applied for supplementary sampling. If RL and WHC should propose field screening methods (analytical Level I) supplemental sampling, demonstrations would be provided that the screening method(s) of choice offer adequate sensitivity to detect the analyte(s) of interest at concentrations that are statistically significantly lower than corresponding action level(s). If it is determined that field screening methods are not applicable, sampling and analysis would be carried out by the same methods proposed for initial sampling (i.e., analytical level II).</p> <p>Supplemental sampling of the near-surface soils (i.e., the uppermost 2 ft interval) would be extended outward from "hot spots" until the extent of contaminated soil is completely defined, irrespective of the initial sampling arrangement. The volume of contaminated soil (i.e., soil with contaminant concentrations exceeding negotiated action levels) would be removed in 2-ft thick layer, as discussed in Section 7.3. Afterwards, the newly exposed ground surface would be resampled for verification purposes (analytical Level III). The verification sampling plan would be reviewed in advance with Ecology. If the newly exposed soil also is contaminated, the lateral extent of contamination would be</p> | |

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| | <p>determined by sampling as above, and additional soil would be removed in 2-ft lifts as necessary. This process of sampling and soil removal would be repeated as often as necessary to achieve the objective of clean closure. A final round of confirmatory sampling (analytical Level III) is proposed to support a regulatory determination of clean closure. As in other cases, the confirmatory sampling plan would be reviewed in advance with Ecology.</p> <p>RL and WHC believe that contamination at the demolition sites (if present) is shallow and of limited lateral extent. The proposed plan seeks to limit the amount of sampling and associated expense in the event that this view is correct. RL and WHC are aware that the approach involves some risk-taking and cost consequences in the event that contamination is extensive and a relatively elaborate cleanup effort is required. The closure plan includes contingencies (outlined above) for working outward and downward in the soil column if contamination is discovered. RL and WHC believe that plan offers sufficient contingencies to ensure that the plan will be responsive to Ecology's regulatory interests in any event regarding the specific nature and extent of contamination at the site.</p> <p>Regarding <u>statistical evaluation of the plan</u>: The draft plan was reviewed by a qualified statistician.</p> <p>Regarding <u>areas of visual contamination</u>: There are no visibly contaminated areas. As discussed in Section 3.0, the sites were inspected immediately after demolition events, and any visibly contaminated areas were cleaned up.</p> <p>Regarding <u>biased sampling in the down-wind direction</u>: Work rules in place at the time prohibited conducting demolition activities when wind speeds exceeded 35 mph (i.e., it is generally know that none of the</p> | |

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demolition events occurred at the times when winds exceeded 35 mph). Participants at the demolition events believe that wind condition never actually exceeded 10-15 mph, although written records of weather conditions were not kept. RL and WHC believes that contingencies in the existing plan are sufficient to identify distortions in contaminant distribution due to wind dispersal without modifications to the proposed arrangement for initial sampling.

Regarding Ecology's expressed interest in extending sampling deeper in pit areas: It is unlikely that contaminants were driven into the ground by the demolition activities. It is far likelier that chemical reaction products and any unreacted residues were released into the air (the unconfined direction in terms of the forces and pressure involved). Because contamination (if any) would have been a surface condition initially, the existence of sub-surface contamination (if any) would have been brought about by factors such as solution and leaching. RL and WHC believes that contingencies in the existing plan are sufficient to identify residual sub-surface contamination. If the uppermost 2 ft of the soil column is shown not to contain contaminant concentrations at or near to action levels, then RL and WHC does not agree there is a legitimate concern that higher concentration of contaminants traceable to the subject activities could exist at greater depths. It is not a reasonable expectation that contaminants could somehow be driven 12 ft into the ground as the result of the activities described in the closure plan.

Extensive research has been conducted at the Hanford Site regarding moisture evapotranspiration of soil moisture and infiltration (recharge) through the vadose zone. It has generally been determined, with some exceptions for isolated locations where the near-surface soils are extremely coarse, that wetting fronts generally do not penetrate to depths exceeding about 4 feet. Sampling to a depth of 12 feet would

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| | <p>require working with either a hollow-stem auger rig or a backhoe. Either option represents a major departure (in terms of time and cost) from the proposed plan. To attempt to resolve this issue, RL and WHC would propose to sample to a depth of 4 feet at the open circled locations shown in Figures 7-1 in the plan. RL and WHC also would be willing to offer to resample at extended depths at any location where initial sampling results indicate that contaminants are present at or close to proposed action levels.</p> <p>Ecology Response: Concur with EAL as analytical support to the investigative phase (level III). See additional requirements for EAL on NOD No. 41 response. Refer action limit to NOD No. 21 response.</p> <p>The closure should proceed to achieve the performance standards of WAC 173-303-610(2) rather than restricted by any proposed plan. Adjusting sampling depth according to the initial sampling results is considered acceptable. However, initial biased sampling to 12 ft was required for at least 30% of the proposed sampling locations. It has to include the two sampling locations near the geometric center of the site. Otherwise, experimental and/or theoretical demonstrations must be furnished to show that the penetration depth of the waste explosives and byproducts from the detonation process and following precipitations is less than 12 ft under the specific geological conditions of the detonation sites.</p> <p>Biased sampling in the down-wind direction will also be required unless experimental and/or theoretical demonstrations can be furnished to show that the migration distance of the waste explosives and the byproducts is negligible assuming that the wind speed is less than and/or equal to 35 mph.</p> | |

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| 48. | <p data-bbox="300 553 400 581">7-6, 1</p> <p data-bbox="455 391 1634 521">Ecology/RL/WHC Resolution: Through the DQO process all sampling and analytical concerns were resolved. Constituents of concerns and analytical methods were identified and agreed to by all parties. See the Sampling and Analysis Plan (SAP) for specific agreements.</p> <p data-bbox="455 553 1604 716">Deficiency. Due to the heterogenous nature of the waste detonated at the site, and the fact that materials may have been driven to considerable depths from the explosion, contaminants are not likely to be evenly distributed. One surface sample from the approximate center of the pit is not adequate.</p> <p data-bbox="455 748 1634 813">Requirement. Sampling will have to be conducted not only at the surface but also at substantial depth under the site. See previous comment.</p> <p data-bbox="455 846 1157 878">RL/WHC Response: See comment response #48.</p> <p data-bbox="455 911 1619 1008">Ecology Response: The RL/WHC response to NOD number 48 is "see comment response #48." This is not an adequate response. See also NOD No. 47 response.</p> | |
| 49. | <p data-bbox="300 1211 412 1239">7-6, 11</p> <p data-bbox="455 1211 1619 1276">Deficiency. It is stated that surface sampling will be conducted at two locations. This is inadequate.</p> <p data-bbox="455 1308 1634 1403">Requirement. At each sampling location, sampling and analysis for organics should be conducted at a minimum for both the top layer and the next underlying layer.</p> | |

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| | <p>RL/WHC Response: As indicated in Lines 36-39 of the same page, the purpose of the two surface samples is to evaluate the adequacy of the proposed arrangement. If residual contaminants are not identifiable in the two surface (0-6 in.) samples to be taken as identified on line 11, then RL and WHC do not propose to sample and analyze this interval at the other locations. The two locations were selected to be near the geometric center of the site where the highest concentrations of residual contamination (if any) would be expected to be occur.</p> <p>Ecology Response: According to RL/WHC's response to question No. 74, the detonation pit at the site is not physically identifiable now, which means the depression has been refilled by outside materials. Thus, sampling in the soil from 0-6 in. may not even reach the true bottom of the demolition site. Revise the sampling scheme to accommodate a solution.</p> <p>Ecology/RL/WHC Resolution: Through the DQO process all sampling and analytical concerns were resolved. Constituents of concerns and analytical methods were identified and agreed to by all parties. See the Sampling and Analysis Plan (SAP) for specific agreements.</p> | |
| 50. | <p>7-6, 26 Deficiency. The text states that the soil sampling will occur to a depth of eighteen inches below grade at six inch intervals. This is not adequate.</p> <p>Requirement. At each sampling location, sampling and analysis for organics should be conducted for both the top layer and the next underlying layer and the depth of analysis must be substantially deeper. Provide explanation of how soil removed prior to sampling will be managed.</p> | |

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| | <p>RL/WHC Response: The text does not indicate that samples will be taken at 6-in. intervals. Text specifies that one sample will be taken from the 6-18 in. interval. Sampling will be carried out in conformance with EII 5.2 (as indicated on line 24). All previous RCRA sampling at Hanford has been performed per this procedure since the procedure was promulgated in 1989. Ecology has regularly approved plans that specify sampling per this procedure. There are no provisions in EII 5.2 for management of soil that is removed prior to sampling. The soil would not be removed beyond the immediate vicinity of the sample location.</p> <p>Ecology Response:</p> <ul style="list-style-type: none">a. EII 5.2 only discusses soil sampling methodologies. In other words, it does not set criteria for sampling depths and intervals but rather to take the samples.b. Handling of removed soil is not adequately addressed. A method, such as covering the removed soil or piling it, should be given.c. Address the requirements. <p>Ecology/RL/WHC Resolution: Through the DQO process all sampling and analytical concerns were resolved. Constituents of concerns, analytical methods, sampling location, depth and general handling of samples were identified and agreed to by all parties. See the Sampling and Analysis Plan (SAP) for specific agreements.</p> | |
| 51. | <p>7-7, 6 Deficiency. Quantitation limits implemented as action levels must be justified.</p> <p>Suggestion. Modify Table 4-1 to incorporate columns specifying the action levels associated with potential contaminants and the basis for</p> | |

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| | <p>such levels. For example, are specific action levels established from background measurements, detection limits, etc.</p> <p>RL/WHC Response: The citation does not state that quantitation limits would be implemented as action levels. RL and WHC do not propose quantitation limits as action levels in any case. Regarding action levels, refer to NOD # 21 comment response.</p> <p>Ecology Response: Refer action level to NOD No. 21 response.</p> <p>Ecology/RL/WHC Resolution: Through the DQO process, action levels were defined and agreed to by all parties, as levels above the Hanford Site soil background levels identified in <i>Hanford Site Background: Part 1, Soil Background for Nonradioactive Analytes (DOE-RL 1993)</i> and Model Toxic Control Act (MTCA) (WAC 173-340) Method B levels.</p> | |
| 52. | <p data-bbox="314 919 434 948">7-7, 10</p> <p data-bbox="463 919 1640 1146">Deficiency. Action levels must be determined prior to sampling. The text should mention when action levels will be proposed and contaminant levels will be compared against proposed action levels. More information is needed on the site background threshold values. At present, the Hanford Soil Background Study is going on, and Ecology has yet to receive and review the finalized values for various organics and inorganics of concern.</p> <p data-bbox="463 1182 1370 1211">Requirement. Revise text accordingly. See comment 24.</p> <p data-bbox="463 1247 1640 1344">RL/WHC Response: Regarding action levels, refer to NOD # 21 comment response. Regarding the Hanford Site-wide soil background study, refer to NOD # 24 comment response.</p> <p data-bbox="463 1380 1655 1442">Ecology Response: Refer action level to NOD No. 21 response and Hanford Site-wide soil background to NOD No. 24.</p> | |

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| 53. | <p data-bbox="457 397 1613 568">Ecology/RL/WHC Resolution: Through the DQO process, action levels were defined and agreed to by all parties, as levels above the Hanford Site soil background levels identified in <i>Hanford Site Background: Part 1, Soil Background for Nonradioactive Analytes (DOE-RL 1993)</i> and Model Toxic Control Act (MTCA) (WAC 173-340) Method B levels.</p> <p data-bbox="457 592 1613 657">7-7, 17 Deficiency. Preparatory procedures lack detail and sample preparation is neglected.</p> <p data-bbox="457 690 1074 722">Requirement. Revise text accordingly.</p> <p data-bbox="457 755 1613 885">RL/WHC Response: All proposed EAL analytical methods, including information on sample preparation, will be submitted to Ecology for review and approval in advance of sampling. The requested information is not available at this time.</p> <p data-bbox="457 917 1564 982">Ecology Response: Reject. Information requested must be provided. Incorporate into closure before submitting revision 2.</p> <p data-bbox="457 1015 1613 1153">Ecology/RL/WHC Resolution: Throughout the closure plan references to using the mobile onsite laboratory will be removed. Offsite laboratories capable of EPA analytical level III will be used for all soil samples.</p> | |
| 54. | <p data-bbox="457 1177 1627 1356">7-7, 19 Deficiency. Initial characterization analysis must be performed by EPA level III criteria (SW-846) which can only be performed by an EPA certified stationary laboratory. The mobile lab provides only level II analyses. Therefore, the mobile lab should only be used to aid in determining sampling locations and plume mapping during remediation.</p> <p data-bbox="457 1380 1074 1416">Requirement. Modify text accordingly.</p> | |

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| | RL/WHC Response: Accepted. See comment response #2. Ecology Response: See NOD No. 2 response. Ecology/RL/WHC Resolution: Throughout the closure plan references to using the mobile onsite laboratory will be removed. Offsite laboratories capable of EPA analytical level III will be used for all soil samples. | |
| 55. | 7-7, 41 Deficiency. Supercritical fluid extraction (SFE) is not appropriate due to the fact that it has yet to receive EPA approval. Requirement. Revise the text to reflect the use of approved methods of sampling and analysis. RL/WHC Response: Ecology's concern is noted. All proposed EAL analytical methods, including SFE, will be submitted to Ecology for review and approval in advance of sampling. Ecology Response: Analytical methods must be submitted with closure plan. The closure plan can not be approved unless this information is reviewed in the context of the closure plan. Ecology/RL/WHC Resolution: Through the DQO process all sampling and analytical concerns were resolved. Constituents of concerns and analytical methods were identified and agreed to by all parties. See the Sampling and Analysis Plan (SAP) for specific agreements. | |
| 56. | 7-7, 44 Deficiency. X-ray fluorescence is not an approved method for metals characterization. It is only to be used as an in-field method to determine sampling locations or areas of contamination. | |

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| | <p>Requirement. Revise the text to reflect the use of approved methods of sampling and analysis.</p> <p>RL/WHC Response: Ecology's concern is noted. All proposed EAL analytical methods, including XRF, will be submitted to Ecology for review and approval in advance of sampling. Additionally, the text of Revision 1 will describe the EAL as an analytical level II laboratory (see NOD #2 comment response), and will propose XRF as an analytical level II application.</p> <p>Ecology Response: Analytical methods must be submitted with the closure plan. The closure plan can not be approved unless this information is reviewed in the context of the closure plan.</p> <p>Ecology/RL/WHC Resolution: Throughout the closure plan references to using the mobile onsite laboratory will be removed. Offsite laboratories capable of EPA analytical level III will be used for all soil samples. Through the DQO process all sampling and analytical concerns were resolved. Constituents of concerns and analytical methods were identified and agreed to by all parties. See the Sampling and Analysis Plan (SAP) for specific agreements.</p> | |
| 57. | <p>7-7, 49 Deficiency. The discussion of the configuration of the analytical series does not address potential impacts on analytical results from variations in the configuration (i.e., burn off organics before analyzing for them)</p> <p>Requirements. Address the influence of the configuration of the series on the analytical results.</p> <p>RL/WHC Response: Accepted. "...in series." should read "...in parallel."</p> | |

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| 58. | <p data-bbox="466 386 1619 485">Ecology Response: Since a gas chromatograph unit can only do one test at each specific time, give a more detailed explanation about the "parallel" staff.</p> <p data-bbox="466 518 1640 747">Ecology/RL/WHC Resolution: Throughout the closure plan references to using the mobile onsite laboratory will be removed. Offsite laboratories capable of EPA analytical level III will be used for all soil samples. Through the DQO process all sampling and analytical concerns were resolved. Constituents of concerns and analytical methods were identified and agreed to by all parties. See the Sampling and Analysis Plan (SAP) for specific agreements.</p> <p data-bbox="466 776 1640 909">Deficiency. Procedures for calibration of analytical equipment is said to be based on mobile lab and published EPA procedures. The concern is that combining the procedures could allow for manipulation of performance or not be consistent with EPA requirements.</p> <p data-bbox="466 938 1640 1006">Requirement. Provide supporting evidence that these procedures will be consistent with EPA requirements.</p> <p data-bbox="466 1036 1640 1136">RL/WHC Response: Ecology's concern is noted. All proposed EAL analytical methods will be submitted to Ecology for review and approval in advance of sampling.</p> <p data-bbox="466 1166 1640 1266">Ecology Response: Analytical procedures must be submitted with closure plan. The closure plan can not be approved unless this information is reviewed in the context of the closure plan.</p> <p data-bbox="466 1299 1598 1435">Ecology/RL/WHC Resolution: Throughout the closure plan references to using the mobile onsite laboratory will be removed. Offsite laboratories capable of EPA analytical level III will be used for all soil samples. Through the DQO process all sampling and analytical</p> | |

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| | concerns were resolved. Constituents of concerns and analytical methods were identified and agreed to by all parties. See the Sampling and Analysis Plan (SAP) for specific agreements. | |
| 59. | 7-8, 31 Deficiency. Utilizing unapproved methods may lead to unacceptable data. Requirement. Do not rely solely on this procedure. RL/WHC Response: Ecology's concern is noted. All proposed EAL analytical methods, including SFE, will be submitted to Ecology for review and approval in advance of sampling. Ecology Response: Analytical procedures must be submitted with closure plan. The closure plan can not be approved unless this information is reviewed in the context of the closure plan. Ecology/RL/WHC Resolution: Throughout the closure plan references to using the mobile onsite laboratory will be removed. Offsite laboratories capable of EPA analytical level III will be used for all soil samples. Through the DQO process all sampling and analytical concerns were resolved. Constituents of concerns and analytical methods were identified and agreed to by all parties. See the Sampling and Analysis Plan (SAP) for specific agreements. | |
| 60. | 7-8, 34 Requirement. See comment 57. RL/WHC Response: See comment response #57. Ecology Response: See NOD No. 57 response. Ecology/RL/WHC Resolution: Through the DQO process all sampling and analytical concerns were resolved. Constituents of concerns and | |

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| 61. | <p>7-8, 44 Deficiency. Detection limits for target RCRA metals are said to 20 micrograms per gram. Do these detection limits meet the Dangerous Waste requirements of background levels for characteristic and listed wastes and designation limits for state only wastes?</p> <p>Requirement. Compare the detection limits with the WAC 173-303 regulatory levels.</p> <p>RL/WHC Response: The one metal analyte of interest identified in Table 7-1 is chromium. The Hanford Site-wide background value (i.e., the 95/95 threshold value) for total chromium is 28 mg/kg (determined by ICP, per CLP specification). The maximum measured value was 320 mg/kg (Hoover et al. 1993). No site-wide background data have been determined for total chromium by XRF. (Results obtained by the two methods are not directly comparable.) The designation limit concentration for total chromium in soil proposed by Ecology (in letter from Roger Stanley to R. D. Izatt (1-10-92) re. "Soil Cleanup/Remediation Policy for Hanford") was 100 ppm. (DOE/RL 1992a).</p> <p>Ecology Response: Concur with the explanation.</p> <p>Ecology/RL/WHC Resolution: Through the DQO process all sampling and analytical concerns were resolved. Constituents of concerns and analytical methods were identified and agreed to by all parties. See the Sampling and Analysis Plan (SAP) for specific agreements.</p> | |
| 62. | <p>7-8, 51 Requirement. See previous comment.</p> <p>RL/WHC Response: See comment response #62.</p> | |

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| 63. | <p data-bbox="446 402 1613 500">Ecology Response: The RL/WHC response to NOD number 62 is "see comment response #62." This is not an adequate response. See also NOD No. 61 response.</p> <p data-bbox="446 532 1630 662">Ecology/RL/WHC Resolution: Through the DQO process all sampling and analytical concerns were resolved. Constituents of concerns and analytical methods were identified and agreed to by all parties. See the Sampling and Analysis Plan (SAP) for specific agreements.</p> <p data-bbox="446 695 1630 857">Deficiency. The on-site mobile laboratory's capabilities are not equivalent to analytical level III. Verification analysis must be performed by EPA level III criteria (SW-846), which can only be performed by an EPA accredited laboratory. The mobile lab provides only level II analyses.</p> <p data-bbox="446 889 1598 987">Requirement. Unless accredited, the mobile lab should only be used to aid in determining sampling locations and plume mapping during site initial characterization.</p> <p data-bbox="446 1019 1315 1052">RL/WHC Response: Accepted. See comment response #2.</p> <p data-bbox="446 1084 1134 1117">Ecology Response: See NOD No. 2 response.</p> <p data-bbox="446 1149 1613 1382">Ecology/RL/WHC Resolution: Throughout the closure plan references to using the mobile onsite laboratory will be removed. Offsite laboratories capable of EPA analytical level III will be used for all soil samples. Through the DQO process all sampling and analytical concerns were resolved. Constituents of concerns and analytical methods were identified and agreed to by all parties. See the Sampling and Analysis Plan (SAP) for specific agreements.</p> | |

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| 64. | <p>7-10, 1 Requirement. On-site mobile laboratory calibration procedures must be fully compliant with EPA requirements.</p> <p>RL/WHC Response: Accepted. See comment response #2.</p> <p>Ecology Response: Concur.</p> <p>Ecology/RL/WHC Resolution: Throughout the closure plan references to using the mobile onsite laboratory will be removed. Offsite laboratories capable of EPA analytical level III will be used for all soil samples.</p> | |
| 65. | <p>7-9, 10 Deficiency. Calibration of instruments only once a day, or shift, may introduce significant error. Calibration may be effected by varying environmental conditions throughout the day, such as a change in temperature or humidity.</p> <p>Requirement. Calibration schedules must respond to fluctuations in ambient environmental conditions.</p> <p>RL/WHC Response: The specific nature of this concern is unclear. The citation on page 7-9, line 10 does not address the subject of calibration. The reviewer's intent may have been to cite page 7-10, line 12. The intent of RL and WHC on the issue of calibration is to conform to the statements appearing on page 7-10, lines 1-6, and Section 7A-6 of the QAPjP. The sentence on page 7-10, lines 12-14 will be eliminated from Revision 1 to avoid any potential conflict or the appearance of conflict between these statements.</p> <p>Ecology Response: Concur.</p> | |

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| 66. | <p>7-11, 35 Requirement. All clean closure sample data should be compiled and submitted in Contract Laboratory Procedure (CLP) format. Consult SW-846, Chapter 1, for guidance on the forms which are appropriate.</p> <p>RL/WHC Response: The text already cites SW-846, Chapter 1 for guidance on documentation (see lines 45-46). CLP format is not a requirement of WAC 173-303.</p> <p>Ecology Response: It is true that WAC 173-303 does not require the CLP format. But, since the RCRA unit is located within a CERCLA operable unit, the CLP format will be required in the remedial action by CERCLA. It is advised, therefore, that the test results should be not less than 10% CLP deliverable SW-846.</p> <p>Ecology/RL/WHC Resolution: Through the DQO process all sampling and analytical concerns were resolved. Constituents of concerns and analytical methods were identified and agreed to by all parties. See the Sampling and Analysis Plan (SAP) for specific agreements.</p> | |
| 67. | <p>7-12, 34 Deficiency. WAC 173-303-610 is not included in the citations consulted for the development of soil cleanup action levels.</p> <p>Requirement. To be considered clean closure, soil contamination must be less than or equal to background or designation limit for state only wastes. If soil contamination concentrations are greater than those just stated, they would be considered a modified landfill closure. This</p> | |

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| | <p>would require compliance with reduced landfill requirements. Also see comment 25.</p> <p>RL/WHC Response: See comment response #25 and #26.</p> <p>Ecology Response: Refer to NOD Nos. 25 and 26 responses.</p> <p>Ecology/RL/WHC Resolution: Through the DQO process all parties agreed that to meet criteria for clean closure of the Ash Pit Demolition Site, the soil sampling and analytical results must verify that the levels of discarded explosive chemical products derived from the Ash Pit Demolition Site operations are below action levels. Agreed action levels are defined as levels above the Hanford Site soil background levels identified in <i>Hanford Site Background: Part 1, Soil Background for Nonradioactive Analytes</i> and Model Toxic Control Act (MTCA) Method B levels.</p> | |
| 68. | <p>7-13, 12 Deficiency. The determination of sampling locations by using random algorithm for initial characterization as specified in section 7.2.3 is acceptable. But the location of sampling points for calculation of the volume of contaminated soil demands a systematic protocol. Sampling plans with well defined grid spacing, locations, etc., might vary depending on the results obtained in the initial characterization.</p> <p>Requirement. The sampling plan will require approval prior to implementation.</p> <p>RL/WHC Response: Accepted.</p> <p>Ecology Response: Concur.</p> | |

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| 69. | <p>7-13, 29 Deficiency. The proposed two feet vertical depth for sampling is inadequate.</p> <p>Requirement. Significantly increase the proposed sampling depth. Consider twelve foot depth.</p> <p>RL/WHC Response: See comment response #48.</p> <p>Ecology Response: See NOD No. 47 response.</p> <p>Ecology/RL/WHC Resolution: Through the DQO process all sampling and analytical concerns were resolved. Constituents of concerns and analytical methods were identified and agreed to by all parties. See the Sampling and Analysis Plan (SAP) for specific agreements.</p> | |
| 70. | <p>7-14, 12 Note. The application of water during removal to control dust needs careful examination and will depend on the contaminant of concern. There is a good chance that contaminants can migrate with water downward during the process. This is especially so since excavation is limited. Other dust control devices may have to be applied depending on the nature of the contaminants.</p> <p>RL/WHC Response: Accepted. (No change to text at this time.)</p> <p>Ecology Response: Concur.</p> | |

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| 71. | <p>7-15, 15 Deficiency. Regulatory requirements require that verification sample analysis be done at level III or IV. A mobile laboratory does not qualify.</p> <p>Requirement. Verification analyses must be done by EPA approved methodology, SW-846, some of which can only be done in a stationary laboratory.</p> <p>RL/WHC Response: Accepted. See comment response #2.</p> <p>Ecology Response: Concur.</p> <p>Ecology/RL/WHC Resolution: Throughout the closure plan references to using the mobile onsite laboratory will be removed. Offsite laboratories capable of EPA analytical level III will be used for all soil samples.</p> | |
| 72. | <p>7-16, 14 Deficiency. A closure plan can be amended prior to final closure but only with approval from the lead regulatory agency which is Ecology in this case. This requirement was ambiguously presented in the closure plan.</p> <p>Requirement. Revise the text.</p> <p>RL/WHC Response: See page 7-16, line 17-20 for clarification.</p> <p>Ecology Response: Concur.</p> <p>Ecology/RL/WHC Resolution: No change.</p> | |
| 73. | <p>F7-1 Requirement. Provide a direction arrow.</p> <p>RL/WHC Response: Accepted.</p> | |

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| 74. | <p data-bbox="444 397 872 430">Ecology Response: Concur.</p> <p data-bbox="444 462 1606 560">Ecology/RL/WHC Resolution: Old Figure 7-1 depicting a proposed sampling grid will be removed since it has been nullified by the approved Sampling and Analysis Plan.</p> <p data-bbox="293 592 1330 625">F7-1 Requirement. Show the location of the detonation pit.</p> <p data-bbox="444 657 1627 950">RL/WHC Response: Presently, there is no physically identifiable detonation pit at the site. However, the depression was still evident at the time the fenced boundary was established. Figure F7-1 represents precise coordinates of surveyed monuments that were placed approximately 10 feet out from the present 20 by 20 foot fence boundary. The reason the site was surveyed and the monuments located 10 feet outside the fence boundary was to ensure a wide, complete, and surveyed sampling area. The 20 by 20 foot fence site boundary can be approximated and overlain on top of this figure.</p> <p data-bbox="444 982 1606 1047">Ecology Response: The location of the detonation site must be shown on the figure.</p> <p data-bbox="444 1079 1627 1274">Ecology/RL/WHC Resolution: Old Figure 7-1 depicting a proposed sampling grid will be removed since new sampling locations are provided by the approved Sampling and Analysis Plan. Through the DQO process all sampling and analytical concerns were resolved. Constituents of concerns and analytical methods were identified and agreed to by all parties. See the Sampling and Analysis Plan (SAP) for specific agreements.</p> | |
| 75. | <p data-bbox="293 1307 1521 1375">F7-1 Deficiency. Sampling locations are not biased to include downwind areas.</p> | |

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| | <p>Requirement. Sampling must be done to characterize all potentially contaminated areas.</p> <p>RL/WHC Response: See comment response #48.</p> <p>Ecology Response: See NOD Nos. 47 and 48 responses.</p> <p>Ecology/RL/WHC Resolution: Old Figure 7-1 depicting a proposed sampling grid will be removed since it has been nullified by the Sampling and Analysis Plan. Through the DQO process all sampling and analytical concerns were resolved. Constituents of concerns, analytical methods and sampling locations were identified and agreed to by all parties. See the Sampling and Analysis Plan (SAP) for specific agreements.</p> | |
| 76. | <p>F7-1 Deficiency. Surface sampling in the middle of the site (probably the pit) is not adequate. The contamination of wastes in the center of the site is suspected to be the greatest and deepest.</p> <p>Requirement. Modify the sampling plan and figure to address deficiencies.</p> <p>RL/WHC Response: See comment response #48.</p> <p>Ecology Response: See NOD Nos. 47 and 48 responses.</p> <p>Ecology/RL/WHC Resolution: Old Figure 7-1 depicting a proposed sampling grid will be removed since it has been nullified by the Sampling and Analysis Plan Agreements. Through the DQO process all sampling and analytical concerns were resolved. Constituents of concerns and analytical methods were identified and agreed to by all parties. See the Sampling and Analysis Plan (SAP) for specific agreements.</p> | |

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| 77. | <p data-bbox="300 407 1066 440">T7-1 Deficiency. This table is inadequate.</p> <p data-bbox="449 472 1561 570">Requirement. Regulated decomposition and reaction products must be included in the list of target analytes. Appropriate methodologies, action levels, and detection limits need to be listed.</p> <p data-bbox="449 602 1561 764">RL/WHC Response: Regarding <u>decomposition and reaction products</u>: Recognized decomposition and reaction products are identified and discussed on Pages 7-4 and 7-5. Recognized products that may be constituents of potential regulatory concern are listed in the Table. (Also refer to NOD # 22 comment response.)</p> <p data-bbox="449 797 1613 1057">Regarding <u>methodologies</u>: Methodologies for initial sampling and analysis in the EAL are identified in the table to the extent that RL/WHC is able to do so at this time (in advance of issuance of EAL procedure manuals). Formal EAL analytical procedures are in preparation. Copies of all EAL analytical procedures will be submitted to Ecology for review and approval in advance of sampling. Anticipated relationships between EAL procedures and published EPA methods (and other methods) are discussed in Section 7.2.4.</p> <p data-bbox="449 1089 1630 1187">Regarding <u>action levels</u>: A table listing proposed action levels for the analytes of interest identified in Table 7-1 will be prepared for inclusion in Section 6.0 of Revision 1.</p> <p data-bbox="449 1219 1608 1349">Regarding <u>detection limits</u>: Practical quantitation limits (PQLs) are listed in Table 7A-1 of the QAPjP. The same analytes are listed in Tables 7-1 and 7A-1. An explanatory note will be attached to Table 7-1 indicating where the PQL information is provided.</p> <p data-bbox="449 1382 725 1424">Ecology Response:</p> | |

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| 78. | <p data-bbox="459 383 1604 711">a. Refer to NOD No. 22 response for the issue of decomposition and reaction products.</p> <p data-bbox="459 480 1204 516">b. Give the specific method no. from SW-846.</p> <p data-bbox="459 545 1285 581">c. Refer the action level to NOD No. 21 response.</p> <p data-bbox="459 610 1604 711">d. PQLs are different for different materials at different laboratories. Thus, relate them to each analyte and the laboratories which will be used to test them.</p> <p data-bbox="459 740 1655 938">Ecology/RL/WHC Resolution: Table 7-1 depicting a proposed Analytes of Interest will be removed since it has been nullified by the Sampling and Analysis Plan Agreements. Through the DQO process all sampling and analytical concerns were resolved. Constituents of concerns and analytical methods were identified and agreed to by all parties. See the Sampling and Analysis Plan (SAP) for specific agreements.</p> <p data-bbox="459 971 1470 1039">Deficiency. This is not an adequate explanation of potential integration of RCRA with CERCLA.</p> <p data-bbox="459 1068 1655 1234">Requirement. If such an approach is to be considered, a much more elaborate discussion must be provided. Yearly inspection of the site until CERCLA remediation is not adequate. Methods to integrate sampling and analysis requirements, minimize the migration of wastes, and security of the site until remediation would have to be developed.</p> <p data-bbox="459 1263 1619 1433">RL/WHC Response: Yearly inspection is a minimal base line. Actual inspection intervals will not be determined until after sample results are received and evaluated. If it is determined that post-closure documentation is necessary than a detailed and specific plan will be developed.</p> | |

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| | <p>Ecology Response: Whether there is integration between RCRA and CERCLA or not, 200 W. APDS must meet the postclosure care requirements of WAC 173-303-680(2) if the contaminated soils or ground water cannot be completely removed or decontaminated during closure. See also NOD No. 20 response.</p> <p>Ecology/RL/WHC Resolution: As long as the Ash Pit Demolition Site is a TSD unit the requirements of RCRA will be addressed.</p> | |
| 79. | <p>Appendix Comment. A general comment about the Appendix is that it is inadequate.</p> <p>Suggestion. Provide information about process knowledge, spill/occurrence reports, and the detonation event (i.e., a description of the actual event and environmental conditions).</p> <p>RL/WHC Response: The requested information has not been provided in any previous QAPjP prepared by RL and WHC. Process knowledge information has already been provided in Chapter 3 of the closure plan. There were no spill/occurrence to report and the detonation event is described in other locations in the closure plan.</p> <p>Ecology Response: The information required is for the purpose of understanding of this specific document. It is incomparable to whatever has been done elsewhere. Without thorough explanation, it would be very difficult to fully assess the impact done to the environment by the demolition event. For example, without the evidence of legitimate documentation, simply changing the waste inventory for the site when questions were raised by the regulators is not acceptable.</p> <p>Ecology/RL/WHC Resolution: The inventory has been agreed to and approved by all parties. Text has been revised to reflect accepted inventory.</p> | |

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| 80. | <p>7A-1, 25 Deficiency. The objective of the investigation is to determine the extent of contamination at the site. Surface sampling is specified as the objective of the investigation. This is not correct.</p> <p>Requirement. Revise the text accordingly.</p> <p>RL/WHC Response: Accepted. Lines 25-27 will be revised to read: "The principal objective of initial (investigative) sampling will be to identify the presence and extent of dangerous waste constituents in surface soils at the site relative to levels of potential regulatory concern."</p> <p>Ecology Response: Concur with the addition of the principal objective of initial (investigative) sampling. However, the depth of surface soil should be given. Refer the requirement on initial sampling depth to NOD No. 47 response.</p> <p>Ecology/RI/WHC Resolution: Text in 7A-1, lines 26-29 was revised to read: "The principal objective of phase one investigative sampling is to facilitate a RCRA clean closure of the site by verifying that the concentrations of all detonation activity contaminants are at or below action levels." Specific sampling and analysis agreements can be found in the Sampling Analysis Plan.</p> | |
| 81. | <p>7A-1, 43 Requirement. If remediation is required, confirmatory samples are required and must be done in an EPA approved laboratory at level III analysis.</p> <p>RL/WHC Response: Accepted. See comment response #2.</p> | |

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| | <p>Ecology Response: See NOD No. 2 response.</p> <p>Ecology/RL/WHC Resolution: Throughout the closure plan references to using the mobile onsite laboratory will be removed. Offsite laboratories capable of EPA analytical level III will be used for all soil samples. Through the DQO process all sampling and analytical concerns were resolved. Constituents of concerns and analytical methods were identified and agreed to by all parties. See the Sampling and Analysis Plan (SAP) for specific agreements.</p> | |
| 82. | <p data-bbox="310 716 1640 781">7A-2, 4 Suggestion. EPA-QZMS-005/80, "Interim Guidelines and Specifications for Preparing Quality Assurance Project Plans," should also be referenced.</p> <p data-bbox="455 813 895 846">RL/WHC Response: Accepted.</p> <p data-bbox="455 878 880 911">Ecology Response: Concur.</p> | |
| 83. | <p data-bbox="310 943 1619 1105">7A-10,17 Deficiency. The reference provided for validation procedures, "Data Validation Procedures for Chemical Analysis (WHC-SD-EN-SPP-002)," is a validation procedure for Contract Laboratory Program (CLP) sample data, not analyses performed under SW-846. The correct reference should be: Sample Management and Administration (WHC-CM-5-3).</p> <p data-bbox="455 1138 1140 1170">Requirement. Revise the text accordingly.</p> <p data-bbox="455 1203 895 1235">RL/WHC Response: Accepted.</p> <p data-bbox="455 1268 880 1300">Ecology Response: Concur.</p> <p data-bbox="455 1333 1598 1430">Ecology/RL/WHC Resolution: <u>Date Validation Procedures for Chemical Analyses</u> (WHC-SD-EN-SPP-002) is a document that provides procedures to WHC staff and subcontractors tasked</p> | |

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| | <p>with the validation of chemical analytical data produced as the result of Hanford Site environmental investigations. This document is a supplement to the <u>Sample Management and Administration</u> document (WHC-CM-5-3) which includes validation procedures for sample data performed under SW-846.</p> | |

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Subject: TRANSMITTAL OF THE 200 WEST AREA ASH PIT DEMOLITION SITE CLOSURE PLAN,
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